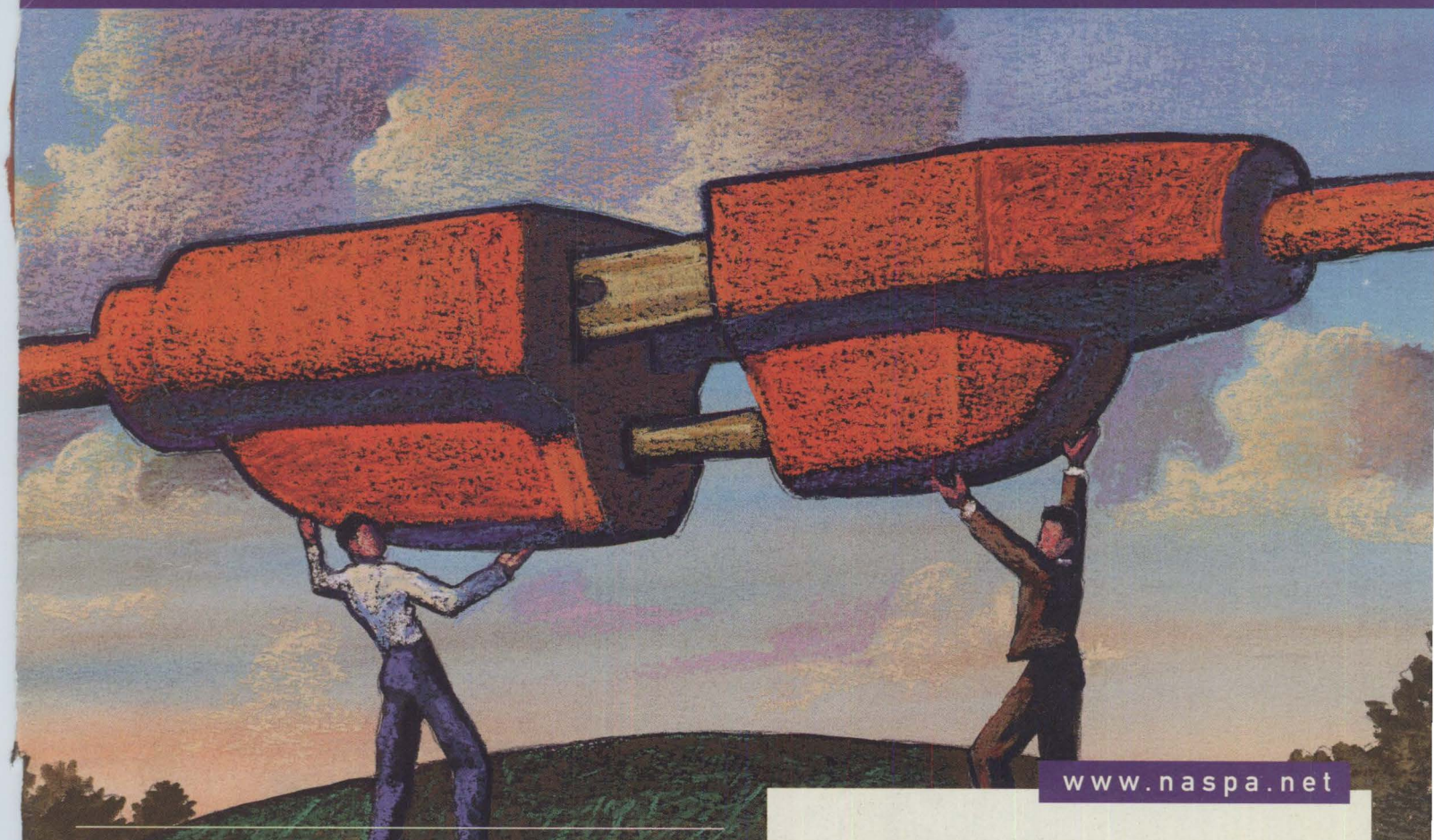
NaSPA technical™ SUPPORT

Supporting Enterprise Networks and Operating Environments

DECEMBER 1997 VOLUME 5, NUMBER 12



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REMOTE ACCESS FOR A P/390

AND

FRAME TYPES:
SORTING OUT THE CONFUSION

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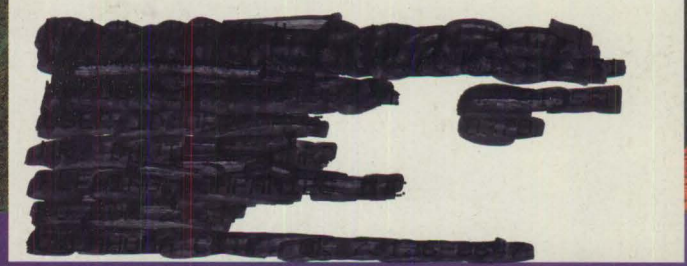

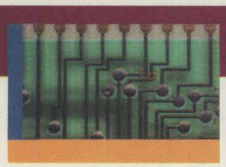

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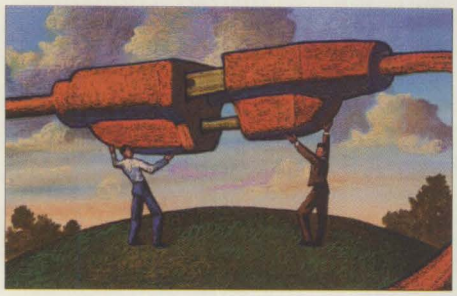

Illustrator: Jonathan Evans

NaSPA Mission Statement:

The mission of NaSPA, Inc., a not-for-profit organization, shall be to serve as the means to enhance the status and promote the advancement of all network and systems professionals; nurture member's technical and managerial knowledge and skills; improve member's professional careers through the sharing and dispersing of technical information; promote the profession as a whole; further the understanding of the profession and foster understanding and respect for individuals within it; develop and improve educational standards; and assist in the continuing development of ethical standards for practitioners in the industry.

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COLUMNS

DEPARTMENTS

Java for OS/2

BY MIKE NORTON

Last month, I noted how the OS/2 Workplace Shell is losing its relevance as browsers increasingly usurp the role of user interfaces traditionally held by operating systems. The migration is sure to be tumultuous. Microsoft's recent legal problems with the Justice Department and Sun Microsystems are indications of technological growing pains as a fundamental paradigm shift occurs. This phenomena reminds me of the first time I saw windows — on an Apple Macintosh — and recognized that the DOS world I had grown accustomed to would soon be swallowed up by this new, exotic method of interfacing with a computer. The more things change, the more they stay the same.

While Microsoft understandably works to undermine the impact of Java, IBM has embraced it. It is difficult to read a computer journal without encountering an article describing how intertwined IBM and Java are becoming. Certainly talking to IBM officials leaves one with an impression of just how strategically important Java is to IBM. Although it went largely unnoticed, beginning with Version 4.0, OS/2 ships with a specialized version of the JDK (Java Development Kit) 1.0.1 from Sun Microsystems.

WHAT IS JAVA?

At first glance, this seems to be an obvious question, considering the enormous amount of publicity that Java has received; however, I've worked in technical support too long to take anything that simple for granted. Besides, I've encountered too many misconceptions about Java to simply assume that everyone is on the same page.

Java's convoluted evolution from a language for toasters to being the toast of the 'net and a burr in Bill Gate's saddle has in no small part contributed to the misconceptions. Although most people know Java as a means of animating web pages, that is incidental. Java was originally intended to be an operating system of sorts for "smart" machines, such as those inane talking Coke machines that gratefully died a quick death. The Java run-time environment is a virtual machine that executes on top of the operating system, analogously to Windows in OS/2. Fully functional applications, which look and feel like applications native to the operating system, may be developed using the Java language. Java source code — plain ASCII text, that looks (and is) very similar to C++ — is compiled into pseudo-code and is then loaded into the virtual machine. The virtual machine then translates this pseudo-code into native operating system code at execution.

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It is this run-time environment that Web browsers emulate to run special Java programs called applets. The virtual machine is also what allows a Java program to be "compiled once, run anywhere." The pseudo-code is operating system-independent; the same code runs on Windows, OS/2 and UNIX. Thus, each operating system has a unique virtual machine that translates the pseudo-code on the fly. For this reason it is sometimes said that Java is a compiled and interpreted language. Obviously, there is a performance issue with the interpretive aspect of the process, a problem addressed by JIT (Just-In-Time) Java compilers that optimize the interpretive process.

Everything you need to develop Java applets is contained in the Java for OS/2 Development package, including the virtual machine, the compiler, an applet viewer that lets you run an applet outside of a browser (trust me, you'll want to), debug and other development utilities. While there are those who prefer visual design tools such as IBM's Visual Age for Java, inveterate command-liners like me will find this package contains everything we need.

INSTALLING JAVA

Java for OS/2 is not installed by default. Assuming OS/2 is already installed, to install the Java Development tools for OS/2, open the "System Setup" folder, select "Install/Remove," then double-click on the "Selective Install" icon. Don't select anything from the first two panels displayed, just click the "Next" button. The third panel presents a number of options, including "Java Development." Select the checkbox, then click "Next." Note that you can only select the drive on which to install the Java support files; neither the directory name, "JAVAOS2," nor its location immediately off the root drive are optional, at least not during installation. (If some soul with enough time on his hands cares to move the JAVAOS2 directory and update the appropriate statements in the CONFIG.SYS, please let me know if it works.) There are some further considerations if Netscape Navigator is installed on your system or if you're planning to install Navigator. Netscape provides Java support at the 1.02 level and will replace some of the JAVAOS2 files, although I haven't noticed any effect

from either the development or the run-time side of things. To ensure that the proper files are updated, reinstall Navigator after installing OS/2 Java support.

PLAYING WITH THE SAMPLE APPLETS

If you've installed Java support correctly, you will be greeted with "Java for OS/2," which is a new folder in your "Programs" folder on your Desktop. Open the enclosed "Samples for Sun's Java Programming Environment" folder and then the "URLs for Samples" folder. Double-click on any of the icons to launch one of the dozens of sample programs provided. From graphics to animations to spreadsheets, you'll find the rudimentary Java techniques well represented; my personal favorite is the "Bouncing Heads," although probably not for the right reasons. True to Blue form, IBM has not skimped on sample code — and it actually works! Although I've surfed a web site or two, and pored over more than one Java tome, I've yet to find a collection for the beginning Java student that is better (and certainly more fun) than the OS/2 Java samples.

HELLO WORLD, AGAIN

Indeed, Java is the first language I've used in which a "Hello World" example extracted straight from the book failed to compile! Next month, using the tools available in the OS/2 Java Development package, I'll write a "Hello World" program that does work. In the meantime, install the package, play with the applets, and realize you're looking at the future as IBM envisions it. ts

Was this column of value to you? If so, please circle Reader Response Card No. 43.

Michael Norton is the workstation division manager at SofTouch Systems, Oklahoma City, Okla., which provides both mainframe and PC software solutions. He has written mainframe manuals in addition to articles for a number of publications. Michael can be contacted at mnorton@softouch.com.

Continued from page 54.

8. **Naming standards for printers:** When we first started implementing network-attached printers, we simply named them HPLAS001, HPLAS002, HPLAS003, etc. This was fine when we had less than 10 printers. Now that we are up to HPLAS235 we have a problem. When a user calls with a printing problem, we have no idea where the printer is and who uses it. We have since developed a new printer-naming standard and are in the process of converting all of the old names to the new convention.

9. **Use network-attached printers:** When we first rolled out the network, I decided to rely on the Novell NPRINTER utility to provide network printing rather than directly connecting the printers to the network via a JetDirect card or NetPort. The NPRINTER utility requires that the user's PC that controls the printer be up at all times. When the user shuts down his system, the network printer is no longer accessible, resulting in a help desk call. Hard wiring the printers will reduce the number of support calls in your organization.

10. **Implement Win95 policies:** When we first rolled out Windows 95 to our users, we were deluged with help desk calls resulting from end users modifying the Win95 settings or implementing their own software. The Win95 policies allow you to restrict the users access to certain areas within Windows 95, such as the Control Panel. We have since implemented the Windows 95 policies and our help desk call volume has been reduced accordingly.

CONCLUSION

Well, I really feel humbled after telling you all of my failures, but, believe it or not, I did make some good decisions along the way. Perhaps I will share my good decisions in a future column. If you have any questions, comments or future ideas for this column, feel free to contact me at johnj@fast.net. ts

Was this column of value to you? If so, please circle Reader Response Card No. 42.

NaSPA member John E. Johnston is manager of technical support and communications for a major hospital in Pennsylvania. He designs and maintains cross-platform local and wide area networks utilizing NetWare, OS/2, DOS and Windows.